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SUBJECT The MAVAG Metallurgical Works near Miskolc

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1. The MAVAG Metallurgical Works (MAVAG Kohaszati Uezemek) was located about five kilometers west of Miskolc N 48-06, E 20-47, halfway between the towns of Miskolc and Diosgyoer N 48-06, E 20-41. Less than one kilometer west of this Works, practically adjoining it, was the DIMAVAG Machine Factory. The two plants were under separate management. The MAVAG Works occupied an area of about two square kilometers.
2. An expansion of the MAVAG plant undertaken in 1951 was expected to be completed by January 1953, making it the largest steel-producing works in Hungary. MAVAG was expected to produce 1,300,000 tn. of steel in the course of 1953. The MAVAG plant, which had the largest forge and electro-steel shop in the country for steel production requiring special alloys and tempering, and the Ozd Metallurgical Works in Ozd N 48-13, E 20-18  which produced commercial and structural iron and steel, were the most important suppliers of basic materials for Hungarian industry. Until the expansion of the MAVAG Works, the Ozd plant had a higher production. The expansion plans included construction of one furnace of 700 cu. m. capacity, which was nearing completion in April 1952, another smaller furnace, and one medium-sized furnace. The expansion was undertaken at MAVAG rather than at Ozd because of the more suitable terrain and also because the DIMAVAG Machine Factory was so close to MAVAG that steel ingots could be conveniently transported to it. The Metallurgical Industry Investment Enterprise of Diosgyoer (Diosgyoeri Kohoipari Beruhazasi Vallalat-DIKOB) was responsible for capital investment at MAVAG. Installations at MAVAG were given priority over even the Stalin Iron Works at Dunapentele N 46-58, E 18-55 in 1952.

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- 25X1A 3. The MAVAG Metallurgical Works was under the control of the Foundries and Machine Industry Ministry [redacted]. The Director of the Works was VARGA, who was appointed to that post in February 1952. Until that time he had been Director of the DIMAVAG Machine Factory, where he had succeeded Ferenc HERCZEG, who was appointed Deputy Chairman of the State Planning Office. VARGA was a fanatical Communist who blamed all production troubles on the West and the 1951 embargo. He was aggressive and ruthless toward both the supervisors and the workers, and he imposed high fines for the slightest negligence.
4. Management of the MAVAG Metallurgical Works was divided between the Main Factory Management, concerned with the over-all management and administration of MAVAG, and the Technical Management, staffed by engineers and technicians. Offices of both managements were located on the factory grounds in an old three-storied building, 100 x 40 m. In the spring of 1952 a new office building similar in size to the old one, and adjoining it, was nearing completion. It was being equipped with luxurious furniture, oil paintings, oriental rugs, ventilators, and every modern convenience.
5. The MAVAG Metallurgical Works employed more than 12,000 workers and operated in three eight-hour shifts. The number of workers was to be increased to 16,000 in 1953. Altogether there were about 1,500 women employees in the shops and offices. Women employed in the work shops did light work, such as distributing refreshments, keeping records of tapped steel, etc.

#### Administrative Organization

6. The administrative organization of the MAVAG Metallurgical Works followed the basic organizational pattern of all state industrial enterprises. [redacted] following offices, functions, and personalities at MAVAG, [redacted]. 25X1X
7. The Materials and Goods Distribution Division was concerned with the circulation of raw materials within the factory and the distribution of finished products. Chief of this Division was Jozsef SIMKO, about 35 years old, tall, slender, slightly bald, clean-shaven. He was a member of the Hungarian Workers' Party. His duties, which he performed competently, consisted not only of managing his Division, but also of giving Party courses to personnel selected from the workers' cadres. SIMKO told me in 1951 that the workers in the MAVAG factories were indifferent toward their work and avoided attending union or Party meetings whenever they could. They had been asked so often for greater effort and greater sacrifices that even the offer of special over-time pay did not interest them. MAVAG workers were convinced that, no matter what they did or what they were promised, they would be the losers in the end. SIMKO said it was impossible to gain their good will. 25X1X
8. The Materials and Goods Distribution Division had the following departments: the Accounting Department, the Materials Procurement Department, the Transportation Department, the Sales Department, the Central Materials Storage Department, and the Central Tool Supply Department.
9. The Chief of the Accounting Department of the Materials and Goods Distribution Division was Istvan DEVENYI, whom I knew personally. He was about 35 years old, approximately 5'9" tall, slender, dark-haired, and indifferent toward his work.
10. The Chief of the Central Tool Supply Department of the Materials and Goods Distribution Division was KOERMOCZY, about 42 years old. His hair was dark and he had infected eyes. He lived in constant terror because of the shortage of tools. He was frequently fined because he could not procure tools, although it was not his fault that they were not available.

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11. The Labor Affairs Division was supposed to be primarily concerned with taking care of the workers' welfare by providing such things as protective clothing and equipment. Actually, this Division was more concerned with increasing the work norms and the working hours. All supervisory personnel in this Division were drawn from the workers' cadres and had completed Party school courses lasting from three to six months. These supervisors pried into every shop in order to find excuses for increasing the work norms and they were very unpopular among the workers.
12. The Personnel Division controlled the personnel departments of all the individual factory sections. One of its main tasks was to see that the Party line was followed and that Communists drawn from the workers' cadres were given key jobs. This Division also recommended outstanding workers for courses in Party schools. Some selected workers were also sent to higher educational institutions, gymnasiums, technical schools, the Kossuth Military Academy, or the Red Academy [redacted]. 25X1A
13. The Central Bookkeeping Office controlled and coordinated accounting and bookkeeping of all the factory sections. Under this office was the Control Section, which saw to it that the factory sections kept within the budget allotted for wages and never exceeded the basic wage in individual cases.
14. The Investment Department kept account of funds for all equipping and renovating. Investment funds were kept with the Hungarian Investment Bank (Magyar Beruhazasi Bank), and DIKOB was charged with carrying out all large-scale industrial investment plans.
- 25X1 15. [redacted] the functions of the Planning and Statistics Division and the Production Division at MAVAG than is implied by their names.
16. The Production Technology Division was staffed by engineers and technical experts who administered the factory laboratory, where the quality of the products was inspected at different stages of production. 25X1X
17. The Soviet Secretariat of the Ministry [redacted] had office space in the administration building at the MAVAG Metallurgical Works, but its staff of about 10 seldom stayed there. The Chief, Ing. ZAHPAJEV, travelled constantly between the Ozd Metallurgical Works, the DIMAVAG Machine Factory, and Budapest, always in the company of several members of his staff.
- 25X1 18. [redacted] the independent workshops of the MAVAG Metallurgical Works described below. [redacted] the Ore Concentration Shop (Erctoemeritoe) or the Pyrite Roasting Shop (Piritpoerkoeloe) [redacted].  
The Blast Furnace Shop (Nagyolvaszto) 25X1X
19. The Blast Furnace Shop contained two medium-sized furnaces and one small furnace before the installation of the giant blast furnace [paragraph 27], which alone was expected to produce 600,000 tn. of pig iron per year, or the combined production of all three of the old furnaces. The main basic materials used by the furnaces were iron ore, metallurgical coke, and limestone.
- a. Most of the iron ore used at MAVAG for the production of pig iron came from the Soviet Union. MAVAG officials checked shipments of red iron ore received from the USSR at the border town of Zahony [N 48-24, E 22-11], where there was a large marshaling yard. The iron ore was later transported to MAVAG from the depot located near Miskolc [N 48-06, E 20-47], where the stock and

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transportation was in charge of the Metallurgical Basic Materials Stockpiling Enterprise (Kohaszati Alapanyagkészletező Vállalat--KOKEV). The Soviet iron ore which, according to agreement, was supposed to have an iron content of 60-65%, usually had an iron content of only 50-52%. Not only were the Soviets cheating Hungary by delivering an ore 10% inferior to the quality agreed upon, but the deliveries were almost always delayed.

- b. Metallurgical coke was imported from Poland. The quality of this coke was satisfactory except that it contained about five per cent dust as a result of several transloadings on the way to MAVAG. Several hundred workers were employed full time to get rid of the dust in a primitive fashion, using pitchforks.
- c. Limestone was obtained from a limestone quarry located along the Eger-Borsodnadasd highway about 100 km. from Miskolc. The quarry was worked by persons condemned to forced labor, both ordinary criminals and internees.

#### The Martin Steel Works (Martinacelmue)

- 20. The Martin Steel Works contained 16 or 18 Martin furnaces and two Bessemer furnaces. The Martin furnaces were set up in a row about 200 m. long. Four charging cranes operated in the feeding area of the Martin furnaces, one crane servicing four furnaces with scrap iron. There were also charging shovels in this area, which workers filled with scrap iron. The shovels were tub-shaped, each about 50 x 150 cms., with a capacity of 350-500 kgs. The high temperature in the Martin furnaces (1,600 degrees C.) was maintained by generator gas produced on the factory grounds. Plans were completed at the beginning of 1952 for the introduction of oil heating in the Martin furnaces by the so-called Pakura process, which was expected to increase the temperature by 20%. (Oil heating was gradually put in use in Martin furnaces at the Ozd Metallurgical Works starting in 1951).
- 21. The furnaces constructed by domestic labor as the result of work competitions and with the advice of Soviet experts were inferior to those constructed by skilled Italian furnace builders. The chamotte and magnesite refractory bricks used in the furnaces were produced by the Refractory Materials Factory of Diosgyoer (Diosgyoeri Tűzalloanyag Gyar), an independent enterprise which formerly was subordinated to MAVAG. The refractory bricks were of poor quality because they were made of inferior materials imported mostly from Poland and Czechoslovakia. The bricks could not withstand the high temperatures and the binding material could not resist the pressure of the liquid steel in the furnaces. The bricks cracked, causing the steel to flow under the furnaces and all around them. there had been 15 published cases of cracking, many more unpublished cases. During 1951 there were 15 fatal accidents and 40 injuries serious enough to require hospitalization. The management tried to put the blame for all these mishaps on the workers.
- 22. Another difficult problem was the water supply. Water was conducted to the MAVAG Works from Lillafuered N 48-06, E 20-37, but in insufficient quantities for the needs of the furnaces.
- 23. On the opposite side of the Martin furnaces was the casting hall, an area about 40 x 200 m. with built-in cranes. Crane operators in the casting hall were replaced every two hours because they could not endure the heat and thick gases which rose toward the ceiling. The crane operators frequently fainted. There were about 100 mold boxes in the casting hall.

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The Rough Rollers Shop (Durva Hengerde)

24. This Shop operated with machines of 35,000 hp. for moving three to four-ton blocks for rolling. After rolling, the greater part of the material reached the crushing machine, which cut the blocks into smaller pieces. These cuts, rolled on the blooming mill train, were used for making steel plates ranging in thickness from five millimeters upward, and weighing from 200 to 1,000 kgs. The plates, called "platinas", were sent to the Loerinci Rolling Mill in Budapest for further processing [redacted]

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The Fine Rollers Shop (Finom Hengerde)

25. High-quality steel bars were rolled in this Shop for making hoops, material for spring steel, etc. The rails produced were extra strong and 36 m. long. They were shipped to the Soviet Union as reparations. In January 1952 Soviet specifications demanded that the rails be bored instead of punched and that the ends of the rails be tempered. This Shop had difficulties because of the shortage of stock, particularly bronze bearings. In order to alleviate the situation experiments were made using plastic bearings instead of bronze.

The Foundry (Oentoede)

26. The Foundry was located in a large single-storied building about 15 m. high. In it were cast various cylinders, molds, railroad fittings, under carriages, and wheels for railroad cars and locomotives. [redacted] 70% of the production went to the Soviet Union. The Soviets were very demanding. In January 1952 they insisted that 100 to 200 kgs. of steel above the standard quantity be poured into locomotive wheel casting molds. As a result, hardened excess steel had to be removed with disc saws. This created another problem because the equipment necessary for this task had been imported from the West and was unavailable because of the embargo [redacted] paragraph 197.

The Big Forge (Nagykovacs-muehely)

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27. The Forge was located in a single-storied building about 15 m. high. It operated with about 24 steam hammers, four of which weighed 40 tn. and the other 20 somewhat less. Cylinders for gun barrels requiring special hardness and made with special alloys were forged here, the cylinders for gun barrels 20 cms. and larger being forged with the 40-ton hammers. These cylinders were further processed (bored, ground, turned, and polished) in the adjoining DIMAVAG Machine Factory. The Forge supplied the war industries with all the necessary semifinished materials for gun barrels of all calibers, including cannon, anti-tank guns, anti-aircraft guns, and heavy machine guns. The Forge received the necessary materials for this production from the Electro-Steel Shop, and these materials, after being processed in the Forge, were returned to the Electro-Steel Shop for the final quenching stress.

The Electro-Steel Shop (Elektroacelmue)

28. The Electro-Steel Shop at the MAVAG Metallurgical Works was the only large shop in the country producing high-quality steel, and all of Hungarian industry was dependent on this production. The Hungarian Car and Machine Factory (Gyoceri Magyar Vagon es Gepgyar) of Gyocer [redacted] 47-41, E 17-387 and the Rakosi Matyas Works (Rakosi Matyas Muevek) also produced high-quality steel, but in quantities insufficient to cover even their own needs.

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29. The following types of high-quality steel were produced in the Electro-Steel Shop, [redacted] had about 20 electric furnaces, mostly graphite-lined.

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- a. High-speed steel
- b. Tungsten (Wolfram) steel
- c. Carbon steel
- d. Spring steel
- e. Piano wire steel

Production of cobalt-content steel was discontinued in November 1951 because of the lack of cobalt. About the same time production of steel alloyed with chrome-nickel, chrome-vanadium, and molybdenum was discontinued because of the lack of these materials.

30. Before the imposition of the embargo by the West, materials used in the production of high-quality steel were imported from Western countries. The embargo forced the State Planning Office to economize in the materials needed for this production, and subsequent economy regulations specified that all requests for high-quality steel had to be placed with the plant 100 days in advance. The Materials and Goods Distribution Division of the Ministry of Foundries and Machine Industries was in charge of the economy of high-quality steel products.

The Machine (or Maintenance) Shop (Gepmuehely -- karbantarto uezem)

31. This Shop was under the direct supervision of the Technical Director of the MAVAG Works and was held responsible for maintenance of equipment and uninterrupted production. The shop had to cope with the problem of severe shortages in materials and with the confusion caused by the embargo, and it sometimes took half a year to get necessary tools. The greatest shortages were in bearings, cranes, tackle, lifting machinery, and chains. There was also a lack of nails, wire, machine belts, and other articles necessary for factory maintenance. The Shop was severely criticized by the Ministry for its apparent failure.

The Generator Gas-Producing Shop (Generatorgazfejlesztoe)

32. This Shop serviced the Martin furnaces and the blast furnaces with generator gas. Installations in this shop were obsolete, and the cost of rebuilding them was included in the plan for 1953-1954.

The Rod-drawing Shop (Rudhuzouezem)

33. This Shop was housed in a building 50 x 80 m. in area and about 10 m. high. High-quality steel rods and axles were ground there. The lack of grinding wheels constantly hampered production.

The Ingot-grinding Shops (Bugacsiszolo Muehely)

34. These Shops, expanded in the first half of 1952, polished the blocks of high-quality steel after they had come out of the rough rolling mill and had been cut up. The ingots were ground on so-called rotating grinding machines with the help of grinding wheels. In Shop I there were about 25 large machines, and in Shop II there were about 70-75 smaller grinding machines. The grinding wheels weighed from eight to 25 kgs. There were many accidents because of the lack of protective installations around the grinding wheels. These Shops did not receive enough grinding wheels and the domestically produced wheels they did receive lasted only a fraction as long as the wheels formerly imported from the West [redacted]

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35. The ingots produced in the Ingot-grinding Shop were sent partly to the Electro-Steel Shop for further processing, partly to the Borsod-nadasd Plate Factory, which made various steel plates of them, and partly to the DIMAVAG Machine Factory, for processing into small armor plate. After further processing, the final products of the ingots included fine steel rods, prisms, springs, and hoops. The fine steel rods and prisms were used by tool factories for the production of boring and other kinds of tools.

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